AMENDMENTS TO THE CLAIMS

Claims 1 – 15 (Canceled)

16. (Currently amended) A micro-glow plug, comprising:

a ceramic heating element having a first arm having a first width, a second arm having a second width, and a tip having a third width that is less than said first and second widths, said first arm and second arm connected to said tip; and

a first connecting apparatus for electrically connecting a voltage source across the first arm and the second arm so that when current is applied to said connecting apparatus a current flows through the ceramic heating element wherein the current density at the tip is increased due to the decreased third width of the tip to generate a high operating temperature at the tip while the first arm and the second arm remain relatively cool;

wherein said ceramic heating element comprises <u>amorphous</u> $Si_xC_yN_z$, where Si is silicon, C is carbon, and N is nitrogen, and x, y and z fall in the following ranges: x=1 to 4; y=1.1 to 3.0; and z=0 to 4.

17. (Original) The micro-glow plug of claim 16 wherein said first width and said second width are substantially equal.

Claims 18 and 19 (Canceled)

20. (Previously presented) The micro-glow plug of claim 16 wherein said ceramic heating element further comprises a metallic element.

21. (Previously presented) The micro-glow plug of claim 20 wherein the atom concentration of said metallic element falls within a range of 0.0 to 2.0 for every silicon atom.

22. (Original) The micro-glow plug of claim 20 wherein said metallic element comprises boron.

23. (Original) The micro-glow plug of claim 20 wherein said metallic element comprises aluminum.

24. (Currently amended) A micro-glow plug comprising:

a ceramic heating element having a first arm having a first width, a second arm having a second width, and a tip having a third width that is less than said first and second widths, said first arm and second arm connected to said tip; and

a first connecting apparatus for electrically connecting a voltage source across the first arm and the second arm so that when current is applied to said connecting apparatus a current flows through the ceramic heating element wherein the current density at the tip is increased due to the decreased third width of the tip to generate a high operating temperature at the tip while the first arm and the second arm remain relatively cool;

wherein said ceramic heating element comprises silicon, carbon, nitrogen and phosphorous in a non-crystalline amorphous combination, and wherein the atom concentration of the phosphorous falls within a range of 0.0 to 2.0 for every silicon atom.

25. (Original) The micro-glow plug of claim 16, further comprising an oxide coating to protect the ceramic heating element from corrosion.

26. (Previously presented) A micro-glow plug comprising:

a ceramic heating element having a first arm having a first width, a second arm having a second width, and a tip having a third width that is less than said first and second widths, said first arm and second arm connected to said tip;

a first connecting apparatus for electrically connecting a voltage source across the first arm and the second arm so that when current is applied to said connecting apparatus a current flows through the ceramic heating element wherein the current density at the tip is increased due to the decreased third width of the tip to generate a high operating temperature at the tip while the first arm and the second arm remain relatively cool; and

a body having a first end and a second end;

wherein there are two or more of said ceramic heating elements integrally connected to said first end of said body, said first arm of said two or more ceramic heating elements interconnected; and wherein:

said connecting apparatus comprises a switching voltage source and a switch apparatus for electrically connecting said switching voltage source across said interconnected first arm of said two or more ceramic heating elements and each second arm of said two or more ceramic heating elements so that a current flows through a first one of said two or more ceramic heating elements and said switching voltage source switches voltage to the next second arm of the next one of said two or more ceramic heating elements when said first one of said two or more ceramic heating elements fails.

27. (Original) The micro-glow plug of claim 26 wherein said body is cylindrical.

28. (Original) A micro-glow plug system comprising:

a body having two or more micro-glow plugs integrally connected to the body;

a switching apparatus for switching power between said two or more micro-glow plugs;

a sensor to monitor a current flow to said two or more micro-glow plugs wherein when said current flow falls below a predetermined level, said sensor sends a signal to said switching apparatus and said switching apparatus switches said power to a next one of said two or more micro-glow plugs.

29. (Original) The micro-glow plug system of claim 28, and further including a source of said power, and wherein said sensor is connected in serial between the switching apparatus and said power source.

30. (Original) The micro-glow plug system of claim 28 wherein said switching apparatus comprises a plurality of controlled switches each having a control terminal and a controller for switching said power to the control terminal of a corresponding one of said plurality of controlled switches.

31. (Currently amended) A micro-glow plug made from a single <u>amorphous</u> ceramic material in which the largest dimension is 2 mm or less, and with a glow tip of a size 0.2 mm or less,

wherein said material comprises amorphous $Si_xC_yN_z$ where Si is silicon, C is carbon, and N is nitrogen, and x, y and z fall in the following ranges: x=1 to 4; y=1.1 to 3.0; and z=0 to 4.

Claim 32 (Canceled)

33. (Previously presented) The micro-glow plug of claim 31 coated with an oxide coating to protect it from corrosion.

Claim 34 (Canceled)

35. (Previously presented) The micro-glow plug of claim 31 wherein said material further comprises a metallic element.

36. (Original) The micro-glow plug of claim 35 wherein the atom concentration of said metallic element falls within a range of 0.0 to 2.0 for every silicon atom.

37. (Original) The micro-glow plug of claim 35 wherein said metallic element comprises boron.

38. (Original) The micro-glow plug of claim 35 wherein said metallic element comprises aluminum.

39. (Previously presented) The micro-glow plug of claim 31, and further comprising phosphorous, wherein the atom concentration of the phosphorous falls within a range of 0.0 to 2.0 for every silicon atom.

Claim 40 (Canceled)

41. (Original) The micro-glow plug of claim 31 wherein said glow tip reaches a temperature of from 1200°C to 1600°C for ignition.

42. (Original) The micro-glow plug of claim 31 wherein said glow tip is capable of reaching a temperature of 1500°C.

43. (Original) The micro-glow plug of claim 31 that uses 5.0 watts of power or less to reach and maintain its highest operating temperature.

44. (Original) The micro-glow plug of claim 31 that uses 1.0 watt of power or less to reach and maintain its highest operating temperature.

45. (Original) The micro-glow plug of claim 31 that reaches its glow temperature in one-half of a second or less from a cold start.

Claims 46 and 47 (Canceled)

48. (Previously presented) A system of micro-glow plugs (MPS) comprising an array of micro-glow plugs connected on a single supporting device and an electrical circuit that switches the operation of said MPS from one of said micro-glows plug to the next until all of said micro-glow plugs in said MPS are exhausted.

49. (Original) The system of claim 48 wherein the total number of micro-glow plugs in said MPS range from two to one thousand.

Claim 50 (Canceled)

51. (Original) The system of claim 48, and further including a circuit for producing an electrical signal providing information on the remaining expected life of said MPS.